



# 30<sup>th</sup> International Conference on Computer Theory and Applications

**ICCTA 2020**

12-14 December 2020  
Alexandria, Egypt

**Conference Program**



*Day 1*

*Saturday December 12<sup>th</sup>, 2020*

**DAY 1 - Saturday, December 12<sup>th</sup>, 2020**

Venue: AASTMT Presidency Building, AbuQir

**12:00 Opening Session**

**12:30 Keynote Speech**

**“Use of ICT to Combat COVID-19”**

***H.E. Prof. Dr. Yousry El Gamal***

Former Minister of Education  
President, Computer Scientific Society

**13:30 Keynote Speech**

**“AI-Enabled Deployment of Connected and Autonomous Electric Vehicles in Smart Cities”**

***Prof. Dr. Hussein Mouftah***

Tier 1 Canada Research Chair and  
Distinguished University Professor

School of Electrical Engineering and Computer Science  
University of Ottawa, Ottawa, Ontario, Canada

**14:30 Keynote Speech**

**“Intelligence Science for Smart Detection and Diagnosis of Corona Virus”**

***Prof. Dr. Abdel-Badeeh M. Salem***

Professor of Computer Science  
Founder & Head of Artificial Intelligence and  
Knowledge Engineering Research Labs

Faculty of Computer and Information Sciences  
Ain Shams University, Cairo, Egypt

**15:30 Lunch**

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**End of Day 1 Activities - ICCTA 2020**

*Day 2*

*Sunday, December 13<sup>th</sup>, 2020*

**DAY 2** - Sunday, December 13<sup>th</sup>, 2020

Venue: *Online*

9:30 - 12:00

<b>Session I</b> <b>Computer Networks, Internet, and Security</b>
<b>Chairs: Prof. Dr. Ayman Abdel-Hamid and Prof. Dr. Ahmed Abou Elfarg</b>
Bounded-Error Subset Selection for Sparse Channel Estimation <b>Sara Osama Abd El Aziz (Alexandria Higher Institute of Engineering and Technology, Egypt), Karim Banawan and Masoud Alghoniemy (Alexandria University, Egypt)</b>
Modeling Cyber-Attribution Using Machine Learning Techniques <b>Maimonah Alkaabi and Sunday Olatunji (Imam Abdulrahman Bin Faisal University, Saudi Arabia)</b>
Genetic-Voronoi Algorithm for Coverage of IoT Data Collection Networks <b>Wajih Abdallah (University of Toulouse, France and University of Gafsa, Tunisia), Sami Mnasri (University of Toulouse, France and University of Tabuk, Saudi Arabia), and Thierry Val (University of Toulouse, France)</b>
Centralized Sink Clustering Protocol using Genetic Algorithm for Lifetime Extension in WSNs <b>Ahmed Mabrouk (Higher Institute of Engineering, Egypt), Mohamed Shehata, Safa Gasser, and Mohamed El-Mahallawy (Arab Academy for Science, Technology and Maritime Transport, Egypt)</b>
Web of Things Interoperability Using JSON-LD <b>Kareem Elsayed and Mohamed Elgamel (Arab Academy for Science, Technology and Maritime Transport, Egypt)</b>
Lightweight Algorithm for Preventing Malicious Fork in the Bitcoin Environment <b>Ahmed Madkour, Hatem Abdelkader, and Asmaa Elsaid (Menoufia University, Egypt)</b>

12:30 - 15:00

<b>Session II Intelligent Computing</b>
<b><i>Chairs: Prof. Dr. Ossama Badawy and Prof. Dr. Mohamed Kholief</i></b>
Early Detection of Cercospora Cotton Plant Disease by Using Machine Learning Technique <b>Wajeeha Shakeel, Mudassar Ahmad, and Nasir Mahmood (National Textile University, Pakistan)</b>
Research Trend Analysis of Artificial Intelligence <b>Ayesha Muarraf, Haseeb Ahmad, Waqar Ahmad, Nadeem Faisal, and Mudassar Ahmad (National Textile University, Pakistan)</b>
Comparing Different Pre-Trained Models Based on Transfer Learning Technique in Classifying Mammogram Masses <b>Neveen Abd-Elsalam (Cairo University, Egypt), Sahar Fawzi (Nile University, Egypt), and Ahmed Kandil (Cairo University, Egypt)</b>
Pneumonia Detection by Analyzing Xray Images Using MobileNET, ResNET Architecture and Long Short Term Memory <b>Shahriar Hossain, Rafeed Rahman, Sabbir Ahmed, and Saiful Islam (Brac University, Bangladesh)</b>
An Intelligent Mobile App for Fall Detection <b>Mohammad Salama and Khaled Eskaf (Arab Academy for Science, Technology and Maritime Transport, Egypt)</b>

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**End of Day 2 Activities - ICCTA 2020**

*Day 3*

*Monday, December 14<sup>th</sup>, 2020*

**DAY 3-Monday December 14<sup>th</sup>, 2020**

Venue: *Online*

9:30 - 12:00

<b>Session III Communications, Robotics, and Energy Informatics</b>
<b><i>Chairs: Prof. Dr. Ahmed Farouk</i></b>
Adaptive Dominant Resource Allocation in LiFi OFDMA Systems <b>Hamis Hesham, M. Saeed Darweesh (Nile University, Egypt), and Tawfik Ismail (Nile University and Cairo University, Egypt)</b>
Computational Study of a Face Mask for Treating Sinus Disease <b>Persis Rofail, Rola Afify (Arab Academy for Science, Technology and Maritime Transport, Egypt), and Hassan El-Gamal (Alexandria University, Egypt)</b>
Design and Development of a Biologically Inspired Robotic Cat for Research and Education <b>Murad Mehrab Abrar and Raian Islam (Ahsanullah University of Science and Technology, Bangladesh)</b>
New Time Horizon Based Classification of PV Power Generation Forecasting Techniques <b>Ola Hassan (Zewail City of Science, Technology and Innovation, Egypt) and Ahmed Abdelsalam (Arab Academy for Science, Technology and Maritime Transport, Egypt)</b>
Design and Development of Path Planning and Obstacle Avoidance System for Driverless Pod Using Artificial Neural Network <b>Mohamed Elshall (Arab Academy for Science, Technology and Maritime Transport, Egypt), Soheir Rezeka (Alexandria University, Egypt), Iham Zidane (Arab Academy for Science, Technology and Maritime Transport, Egypt), and Ahmed Onsy (University of Central Lancashire, UK)</b>
Fast Convergence Modified Cuckoo Search Algorithm to Pursue String PV Modules Maximum Power Point under Partial Shading Conditions <b>Ahmed Hossam-Eldin, Ahmed Abdelsalam (Arab Academy for Science, Technology and Maritime Transport, Egypt), Karim Youssef, and Ehab Ali (Alexandria University, Egypt)</b>



12:30 - 14:30

<b>Session IV Image Processing and Information Systems</b>
<b><i>Chairs: Prof. Dr. Khaled Mahar and Prof. Dr. Mohamed Shaheen</i></b>
Extraction of Temporal Event's Frequency from Online News Channels <b>Ain-ul-noor Fatima, Haseeb Ahmad, Mudassar Ahmad, Waqar Ahmad, and Nadeem Faisal (National Textile University, Pakistan)</b>
The Influence of Applying Mobile Customer Relationship Management (M-CRM) in the Service Sector on Employee's Performance in Egypt <b>Sara Beshir, Ashraf Labib, and Samar Elkhoully (Arab Academy for Science, Technology and Maritime Transport, Egypt)</b>
Enhancing Medical Images using Altered Differential Evolution Approach <b>Meera Ramadas (University College of Bahrain, Kingdom of Bahrain) and Ajith Abraham (Machine Intelligence Research Lab, USA)</b>
An Efficient Detection Framework for Linear Skin Lesions with Pigmentary Disorders <b>Hassan Ayad (Cairo University) and Tawfik Ismail (Nile University and Cairo University, Egypt)</b>

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**End of ICCTA 2020 Activities**

## **ICCTA 2020 Committees**

### **Honorary Chair**

**Prof. Dr. Ismail Abdel Ghafar Ismail Farag**

President, Arab Academy for Science, Technology, and Maritime Transport (AASTMT), Egypt

### **Conference Chair**

**H. E. Prof. Dr. Yousry S. El-Gamal**

Former Minister of Education

President, Computer Scientific Society

### **Conference co-Chair**

**Prof. Dr. Alaa Abdel Bary**

Vice President for Postgraduate Studies and Scientific Research, AASTMT

### **Conference Coordinators and Program co-Chairs**

**Prof. Dr. Ayman Abdel-Hamid**, AASTMT, Alex., Egypt.

**Dr. Essam Kosba**, AASTMT, Alex., Egypt.

### **Organizing Committee**

**Prof. Dr. Khaled Mahar**, AASTMT, Alex., Egypt

**Prof. Dr. Ahmed Farouk**, AASTMT, Alex., Egypt

**Dr. Mahmoud Farouk**, AASTMT, Alex., Egypt

**Eng. Hassan Bakr**, AASTMT, Alex., Egypt

**Prof. Dr. Mohamed Kholief**, AASTMT, Alex., Egypt

**Dr. Mohamed El-Habrouk**, Alex. Univ., Alex., Egypt

**Prof. Dr. Ahmed Abou Elfarag**, AASTMT, Alex., Egypt

**Mr. Kabary Mohamed**, AASTMT, Alex., Egypt

### **Finance Chair**

**Eng. Mahmoud Morsy**

Honorary Secretary, Computer Scientific Society

### **Marketing and Public Relations**

**Dr. Nezar El Shenawy**

Head of Marketing Unit, Postgraduate Studies and Scientific Research, AASTMT